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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,353	03/05/2002	Ioannis Katsavounidis	INTV.007A	7737

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EXAMINER

VO, TUNG T

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 06/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/092,353

Applicant(s)

KATSAVOUNIDIS ET AL.

Examiner

Tung Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 6, 8, 11-13, 15, and 18-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Chien et al. (US 5,621,467) in view of Luthi (US 5,875,199).

Re claims 6, 8, 11, 13, and 19-20, Chien teaches a method for decoding a video bitstream that includes forward error correction (FEC) codes, the method comprising the steps of: receiving the video bitstream, which includes both video data and FEC codes (10 of fig. 2); retrieving video from the video bit stream (16 of fig. 2, e.g. a frame checking sequence retrieves the video data and the ED from the bitstream); retrieving FEC codes from the video bitstream in response to a detection of corruption (12 of fig. 2); correcting the corruption of the video data in accordance with the at least one of the FEC codes to recover uncorrupted video data therefrom (18 of fig. 2); and receiving a header code that specifies a subset of video data to which the FEC codes correspond, and applying the FEC codes only to the subset of video data (col. 3, lines 16-39).

It is noted that Chien does not particularly teach the steps of evaluating the video data the video data to determine the presence of a corrupt portion thereof; retrieving at least one of the

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FEC codes from the video bitstream responsive to a positive determination of a corrupt portion of the video data as determined in the video data evaluating step as claimed.

However, Luthi teaches the steps of evaluating the video data the video data to determine the presence of a corrupt portion thereof (38 of fig. 5, see also figs. 3 and 4, e.g. detecting error locations and correcting the detected error, see Abstract of Luthi); retrieving at least one of the FEC codes from the video bitstream responsive to a positive determination (42 of fig. 5, e.g. comparing to the threshold) of a corrupt portion (error flags) of the video data as determined in the video data evaluating step (see also Abstract of Luthi; fig. 3, e.g. two partial syndromes are produced and labeled S.sub.1 and S.sub.2. In this example, three received data symbols labeled R.sub.1 through R.sub.3 are provided. Accordingly, the received codeword comprises five (possibly corrupted) symbols, of which three are data symbols and two are check symbols).

Therefore, taking the teachings of Chien and Luthi as a whole, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Luthi (fig. 5) into the method of Chien to determine the corrupted data portion or location that contains the error for correction.

Doing so would allow the decoder to be capable of handling the higher bit rate associated with video signal.

Re claim15, Chien further teaches the step of storing the video bitstream in a buffer (14 of fig. 2); retrieving in the video data retrieving step the video data from the buffer (16 of fig. 2); and retrieving the FEC codes (12 of fig. 2) at the step the at least one of the FEC codes from the buffer (see also col. 3, lines 1- 39).

Re claim 12, Chien further teaches the step of concealing an error in a corresponding pixel (col. 3, lines 48-61, e.g. the error concealment conceal an error in a corresponding to a single component (e.g. luminance, chrominance, color, or gray color pixel...) with a gray color pixel when the portion of the video data cannot be recovered in the video data correcting step).

Re claim 18, Chien further teaches the step of receiving a header code that specifies a subset of video data to which the FEC codes correspond, and applying the FEC codes only to the subset of video data (col. 3, lines 16-39).

3. Claims 7, 10, 14, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chien et al. (US 5,621,467) in view of Luthi (US 5,875,199) as applied to claims 6, and 13, and further in view of Kikuchi et al. (US 6,415,389 B1).

Re claims 7, 10, 14, and 17, the combination of Chien and Luthi teaches the FEC codes and MPEG decoding using FEC codes but Chien and Luthi do not particularly teach the FEC codes correspond to Bose- Chaudhuri-Hocquenghem (BCH) codes and the video data is retrieve from a packet for a video object plane (VOP) and retrieving the FEC codes as claimed.

However, Kikuchi teaches the FEC codes correspond to Bose-Chaudhuri-Hocquenghem (BCH) codes (col. 1, lines 25-30) the video data is retrieve from a packet for a video object plane (VOP) and retrieving the FEC codes from a user data video packet associated with the VOP (802 of fig. 8, e.g. requesting the FEC kind ID signal from the input; see also fig. 38, (a), (b), and (c), e.g. the dynamic image code string of a single VOP starts from a VOP start code (VSC in the drawing) (also referred to as a picture start code), which is a uniformly decodable synchronization code. The VOP start code is followed by a VOP header (VH in the drawing)

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(also referred to as a picture head). The VOP header contains information representative of time of the VOP, a VOP coding mode, a VOP quantization step size and so forth. The VOP header is followed by coding data of macro blocks).

Therefore, taking the teachings of Chien, Luthi, and Kikuchi as whole, it would have been obvious to one of ordinary skill in the art to incorporate the Bose-Chaudhuri-Hocquenghem (BCH) codes for the VOP of Kikuchi into the FEC decoder of Chien for the same purpose of retrieving the VOP stream based on the BCH codes.

Doing so would provide the decoder which can decrease the number of bits of a code string, to which a header information representative of the kind of error detection/correction coding must be added and which is transmitted and/or stored, to improve the quality of information the video data and FEC for the VOP from the video data stream.

4. Claims 9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chien et al. (US 5,621,467) in view of Luthi (US 5,875,199) as applied to claims 6 and 13, and further in view of Fuji et al. (US 6,807,191 B2).

Re claims 9 and 16, the combination of Chien and Luthi teaches the buffer for storing the video data above but it does not particularly teach the buffer is a ring buffer as claimed.

However, Fuji teaches the buffer is a ring buffer for storing the video data (fig. 6).

Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the ring buffer (fig. 6) of Fuji into the decoder of the combination of Chien and Luthi to easily read and write the video data the video data for decoding. Doing so would allow the user to read or

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write a particular amount of the video data from or onto the ring buffer in the desired location or address.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

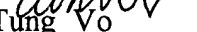
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung Vo whose telephone number is 571-272-7340. The examiner can normally be reached on Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Tung Vo
Primary Examiner
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